

Curriculum Vitae

Fred M. Tatum, Microbiologist USDA/ARS/NADC

Educational Background:

U. of Wisconsin,	BS.	Biology	1976
U. of Alabama,	MS.	Biology	1982
U. of Alabama,	Ph.D.	Biology	1985

Research Experience:

1985-89, Postdoctoral Associate, Louisiana State University Medical School, Dept. of Biochemistry and Molecular Biology, New Orleans, LA.

89-90; Postdoctoral Associate, Brucellosis Unit, NADC, Ames, IA.

91-94; Microbiologist, Brucellosis Unit, NADC, Ames, IA.

94-Present; Microbiologist, Respiratory Diseases of Livestock Unit, NADC, Ames, IA

Funding:

Awarded Biotechnology Research and Development Corporation competitive grant for "Construction of Vaccines for Bovine Pneumonic Pasteurellosis" Oct '92 - Mar '98, totaling \$566,420. Incumbent was P.I. on grant and was responsible for expanding the scope of research objectives over the funding period. Currently, Co P.I. with R.E. Briggs on Biotechnology Research and Development Corporation competitive grant entitled "Molecular Genetic Construction of Live Mucosal and Injectable Bacterial Vaccines Against Respiratory Diseases in Cattle, Swine, and Poultry" April 98 – April 2001, totaling \$225,000.

Invitations:

Invited to Mallinckrodt Veterinary, Mundelein, IL, June, 1995, to present ongoing research on construction of modified-live vaccine strains.

Invited to Oxford Animal Health, Worthington, MN, July, 1995, to present ongoing research on construction of modified-live vaccine strains.

Invited to National Cattlemen's Beef Association Annual Convention in Charlotte NC, February, 1998, to present ongoing research on mucosal *P. haemolytica* vaccine.

Invited to Schering-Plough Animal Health, Elkhorn, NE, October 1998, to present ongoing research on oral vaccination of cattle.

Invited to Pfizer Central Research, Groton, CT, June, 1999, to present research findings on oral vaccination against shipping-fever.

Invited to Schering-Plough Animal Health, San Diego, CA, October 1999, to present ongoing research on mucosal vaccination strategies.

Invited to Fort Dodge Labs, Fort Dodge, IA, May 2000, to present ongoing research on mucosal vaccines strategies.

Invited to present progress on grant to the BRDC Scientific Review Committee, 1993-99.

Publications 94-00:

Tatum F.M., N.F. Cheville N.F., and D. Morfitt . Cloning, Characterization and Construction of htrA and htrA-like Mutants of Brucella abortus and Their Survival in BALB/c mice. Microbial Pathogenesis. 17: 23-36. 1994.

Tatum FM, Briggs RE, Halling SM. Molecular gene cloning and nucleotide sequencing and construction of an aroA mutant of Pasteurella haemolytica serotype A1. Appl Environ Microbiol. 1994 Jun;60(6):2011-6.

Briggs RE, F.M. Tatum, T.A. Casey, and G.H.Frank. Characterization of a restriction endonuclease, *PhaI*, from Pasteurella haemolytica serotype A1 and protection of heterologous DNA by a cloned *PhaI* methyltransferase gene. Appl Environ Microbiol. 1994 Jun;60(6):2006-10.

Borza DB, F.M. Tatum, and W.T.Morgan. Domain structure and conformation of histidine-proline-rich glycoprotein. Biochemistry. 1996 Feb 13;35(6):1925-34.

Briggs R. E., and F. M Tatum. Pasteurella haemolytica Transformants. US Patent 5,587,305 issued December 24, 1996.

Briggs R. E., and F. M. Tatum. Pasteurella haemolytica restriction endonuclease and methyltransferase. US Patent 5,683,900 issued November 4, 1997.

Briggs R. E., and F. M. Tatum. DNA encoding Pasteurella haemolytica *PhaI* restriction endonuclease and methyltransferase. US Patent 5,693,777 issued December 2, 1997.

Briggs R. E., and F. M. Tatum. Chimeric plasmid for introduction of DNA into Pasteurella haemolytica. US Patent 5,733,780 issued March 31, 1998.

Tatum F. M., R. E. Briggs, S. S. Sreevatsan, E. S. Zehr, S. Ling Hsuan, L. O. Whiteley, T. R. Ames, and S. K. Maheswaran. Construction of an isogenic leukotoxin deletion mutant of *Pasteurella haemolytica* serotype 1: characterization and virulence. *Microb. Pathog.* 24: 37-46, 1998.

Briggs R. E., and F. M. Tatum. Molecular genetic construction of vaccine strains of *Pasteurellaceae*. U.S. Patent 5,840,556 issued November 24, 1998.

Briggs R. E., and F. M. Tatum. Construction of *Pasteurella haemolytica* vaccines. U. S. Patent 5,824,525 issued October 20, 1998.

Briggs R. E., and F. M. Tatum. Construction of *Pasteurella haemolytica* vaccines. U. S. Patent 5,849,305 issued December 15, 1998.

Tatum F. M. and R.D. Hood. Arsenite uptake and metabolism by rat hepatocyte primary cultures in comparison with kidney- hepatocyte-derived rat cell lines. *Toxicol Sci.* 1999 Nov;52(1):20-5.

Briggs R. E., and F. M. Tatum. Molecular genetic construction of vaccine strains of *Pasteurellaceae*. New Zealand Patent 332698 issued May 6, 2000.